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## Croatia

### AGRICULTURAL BIOTECHNOLOGY ANNUAL

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**Report Highlights:**

Croatia is a net food importer and government policy is geared towards raising agricultural productivity and, to a lesser extent, limiting imports. EU membership is also a priority for the Croatian government, and new laws and agricultural policies increasingly mirror those of the EU. The Croatian public remains very skeptical about agricultural biotechnology. There has also been a general demonization of U.S. food products as "Frankenstein Foods." In Croatia, several pieces of legislation have been introduced to regulate the importation and cultivation of biotech crops and foods.

All sections of the report have been updated.

**Section I. Executive Summary:**

Croatia is a net food importer and government policy is geared towards raising agricultural productivity and, to a lesser extent, limiting imports. EU membership is also a priority for the Croatian government, and new laws and agricultural policies increasingly mirror those of the EU.

The Croatian public remains very skeptical about agricultural biotechnology. There has also been a general demonization of U.S. food products as "Frankenstein Foods."

In 2004, samples of foodstuff and seed taken from the market were randomly tested for biotech traces, which resulted in the withdrawal of some products from the market because the biotech products were not labeled. The Croatian Government penalized the importers.

In Croatia, several pieces of legislation have been introduced to regulate the importation and cultivation of biotech crops and foods. The laws regulating biotechnology are: The Food Act and The Law on Genetically Modified Organisms. Additional important legal documents on biotechnology are the Government Ordinances on GMO Levels in Products Under which Products Placed on the Market Do Not Have to be Labeled as Products Containing GMO passed on 31<sup>st</sup> of July, 2008 (Governmental Gazette 92/2008) and 18<sup>th</sup> of March 2009 (Governmental Gazette 36/2009). These list the trace amounts of biotech ingredients that can be contained in a product.

## **Section II. Biotechnology Trade and Production:**

- a. In Croatia there are no commercially produced biotech crops
- b. In Croatia there are no biotech crops under development.
- c. Croatia is not importing biotech crops/products for market release.
- d. Croatia is not a food aid recipient.
- e. Croatia does not produce any biotech crops developed outside of the United States or any biotechnology crops in general.

## **Section III. New Technologies:**

- a. Genetic engineering and/or cloning are not used in Croatia for the development of agriculturally-relevant animals.
- b. Croatia does not have in place any legislation related to the development, commercial use and/or import of these animals or products.
- c. Currently, the FAS office in Croatia is not aware of any discussions of related regulatory or research policies on these technologies.
- d. Government entities that could be expected to be engaged in the regulation of these technologies, regarding both food and environmental safety issues related to research on or commercial use of these animals would be the following: Ministry of Agriculture, Fisheries and Rural Development, Ministry of Health, Ministry of Culture (Environment Protection Department), Ministry of Science, Croatian Food Agency and Council for GMOs.
- e. Labeling and/or traceability of these animals or products is expected to be an issue in Croatia. There are indications that Croatian Government might require mandatory labeling of products derived from GE or cloned animals.
- f. There are active organizations that lobby against the genetic engineering or cloning of agriculturally-relevant animals. In addition, Croatian press is expected to be actively against this technology.
- g. In Croatia, it can be expected that the market would reject these products.

## **Section IV. Biotechnology Policy:**

- a. Agricultural biotechnology regulatory framework:

The Food Act governs the possible importation, licensing and labeling of any foods/feed containing biotech ingredients. The latest Food Act was approved by Parliament on April 25th, 2007 and published in Government Gazette number 46 on May 7th, 2007. This law outlines many regulations that would enable biotech products to enter the market and be labeled. Publication of many of those regulations was on hold until recently when due to the approaching Croatian EU accession many regulations had/have to be published. The labeling threshold for biotech content is governed by the two new Government Ordinances on GMO Levels in Products Under which Products Placed on the Market Do Not Have to be Labeled as Products Containing GMO passed on 31<sup>st</sup> of July, 2008 (Governmental Gazette 92/2008) and 18<sup>th</sup> of March 2009 (Governmental Gazette 36/2009) (see section IVbi for additional details). Company penalties for violating the "novel food" provisions of the Food Law concerning placing novel foods on the market or labeling are from Kn 100,000 to Kn 500,000 (\$ 18,495 – \$ 92,473), with responsible individual fined from Kn 5,000 to Kn 10,000 (\$ 925 – \$ 1,849).

The Law on Genetically Modified Organisms (Law on GMOs) is an overarching law for biotechnology. The Law on Genetically Modified Organisms (Governmental Gazette 70/2005) together with the Food Act and subsequent regulations regulate the importation, transshipment, production, usage, and sale of products of agricultural biotechnology (all food, feed, and seed). This Law established a testing and licensing regime that is very restrictive. The highest penalties for breaching the provisions of this Law range from Kn 500,000 to Kn 1,000,000 (\$ 92,473 – \$ 184,945) for the responsible company and from Kn 20,000 to Kn 70,000 (\$ 3,699 - \$ 12,946) for the responsible employee in the company.

#### i. Responsible Ministries and their Roles:

##### Ministry of Science (MOS), Education and Sport

- According to the GMO Law, the MOS is responsible for limited-contained use of GMOs.

##### Ministry of Health and Social Welfare (MOHSW)

- According to the Food Act, the MOHSW is responsible for all the issues regarding food, foodstuff and feed containing biotechnology content and inspections.
- According to the GMO Law, the MOHSW is the umbrella ministry and coordinating body for all biotechnology issues.

##### Ministry of Culture (MOC) - Environment Protection Department

- According to the GMO Law the MOC is responsible for the intentional introduction of GMOs into the environment.

#### Ministry of Agriculture, Fishery (MOAF) and Rural Development

- According to the Food Act, the Ministry of Agriculture is the central body of the Government responsible for food/feed safety, food/feed quality and food/feed hygiene. This Ministry is also a contact point for the EU when mentioned issues are concerned. The Ministry of Agriculture and the Ministry of Health have joint responsibility concerning all the issues regarding food, foodstuff and feed containing biotechnology content and their inspections.
- According to the GMO Law, the MOAF has responsibilities for feed and animal food; reproduction material in agriculture, forestry and veterinary medicine; drugs in veterinary medicine and pesticides; is also responsible for giving its consent for the intentional release of biotech products into the environment.

#### ii. Role and Membership of Biosafety Committee (if any):

The GMO Law required the establishment of a Council for GMOs with the specific task of assisting Governmental bodies to apply the Law. The Council has 17 members appointed by the Government of Croatia based on nominations from the pertinent Ministries. Council membership lasts for four years. The Council's work is independent and public. According to the Law, the Council's tasks include: tracking gene technology development and usage; tracking scientific breakthroughs and giving opinion and incentives for usage of gene technology and GMOs; giving opinions on social, ethical, technical, scientific and other conditions of GMO use; advising responsible institutions on GMO and gene technology issues; informing the public on GMO and gene technology development and also giving viewpoints and opinions.

The GMO Law also calls for establishing a Board for Limited Usage of GMOs with 11 members made up of scientists from the fields of microbiology, genetics, medicine, biochemistry, molecular biology, pharmacy, biotechnology, agriculture, forestry, veterinary medicine, nature and environmental protection, and occupational protection. In addition, the GMO Law requires the establishment of a board for the introduction of biotech products into the environment that consists of nine scientists from the fields of: genetics, ecology, nature protection, and environment protection, agriculture, forestry, veterinary medicine, biochemistry, molecular biology, microbiology, and medicine. The tasks of these boards include: giving opinions on biotech usage in terms of legal procedures as outlined by the GMO Law, giving opinions and proposals for preparing

other legislation on GMO usage, giving opinions and proposals to responsible ministries on biotech usage issues and other expert work as outlined by the GMO Law and related regulations.

According to the law, these two boards should report to the GMO Council once a year.

The old and new Food Act/s called for the establishment of the Croatian Food Agency, which began its work in 2004. The Agency's work consists of providing scientific and technical support to legislators as well as providing scientific advice in all areas that have direct and indirect influence on food and feed safety. Apart from that, the Food Agency is required to work on many other issues concerned with feed, food and nutrition and is a provider of scientific opinion to the Ministry of Health and Ministry of Agriculture when deciding on placing on the market GMO food and/or feed.

iii. Assessment of political factors that may influence regulatory decisions related to agricultural biotechnology:

Although EU membership is a priority for the Croatian government and the country's new laws and agricultural policies increasingly mirror those of the EU, biotech opponents in Croatia have been emboldened by the perceived success of Austria, Slovenia in standing up to the European Commission on biotech approvals. Thus complying with EU regulations has little meaning as long as Croatia positions itself within a regional group of "healthy," GMO-free countries.

At the moment Croatia clearly sees its future as a "niche market for healthy food" (NOTE: In Croatia, the word "healthy" encompasses everything from conventional, organic to non-biotech products), and Croatian officials see little need to implement a procedure to allow biotech seed imports given a lack of agricultural demand for biotech products to combat drought, pests, or soil problems. Government officials acknowledge the legal obligation to open their agricultural market to foreign imports and openly acknowledge that Croatia is positioning itself as a GMO-free, "healthy" tourist destination. Also the Croatian public is generally very negative towards biotech products (HR9006).

b. Biotechnology crops approved for:

i. Food, processing and feed:

No biotech crops have been approved for food or feed use in Croatia, but there is a 0.9% threshold level for some biotech content in food and feed. Under special ordinance from 2008 and its amendment from 2009 the threshold for biotech content in food depends upon whether or not GMO event is on the Ordinance's list of permitted GMO events (the list is created from the list of GMO

events previously tested and licensed in the EU). If the GMO event is on the Ordinance's list, it does not need to be labeled for sale on the Croatian market--provided separate tests within Croatia confirm that the product contains up to 0.9% biotech content (for products that consist from more than one ingredient than 0.9% threshold is permitted per product's ingredient). However, if the biotech content is above 0.9%, the product has to be labeled. The biotech threshold level drops to 0.0% for biotech products that are not on the Ordinance's list. The same goes for feed.

List of 0.9% threshold level allowed GMOs:

Num.	Code	Plant	Producer	Modification	Possible Usage
1.	Carnation Moonlite (Dianthus caryophyllus L. line 123.2.38)	carnation	Florigene Ltd	flower color	import and processing
2.	Carnation Mooshadow 1	carnation	Florigene Ltd	flower color	cultivating
3.	Carnation Moonshadow 2	carnation	Florigene Ltd	long life	
4.	Carnation Moondust	carnation	Florigene Ltd	flower color	import and processing
5.	1507	corn	Pioneer/Dow AgroScience	insect resistance and herbicide tolerance	food and feed
6.	59122	corn	Pioneer Hi-Bred/Mycogen seeds	insect resistance and herbicide tolerance	food, food ingredient and feed
7.	1507 X NK603	corn	Pioneer Hi-Bred/Mycogen seeds	insect resistance and herbicide tolerance	
8.	MON863	corn	Monsanto	insect resistance	food, feed and processing
9.	GA21	corn	Syngenta	herbicide tolerance	
10.	MON863X MON810	corn	Monsanto	insect resistance	food, feed and cultivating
11.	NK603	corn	Monsanto	herbicide tolerance	food and feed
12.	Bt11	corn	Syngenta	insect resistance	

13.	MON810	corn	Monsanto	herbicide tolerance	
14.	T25	corn	Monsanto	herbicide tolerance	
15.	MON863 X NK603	corn	Monsanto	insect resistance and herbicide tolerance	
16.	NK603 X MON810	corn	Monsanto	insect resistance and herbicide tolerance	
17.	MON1445	cotton	Monsanto	herbicide tolerance	
18.	MON531	cotton	Monsanto	insect resistance	
19.	MON15985	cotton	Monsanto	herbicide tolerance	
20.	MON15985 X MON1445	cotton	Monsanto	insect resistance and herbicide tolerance	
21.	MON531 X MON1445	cotton	Monsanto	insect resistance and herbicide tolerance	
22.	MON40-3-2	soybean	Monsanto	herbicide tolerance	food, feed, cultivating and processing
23.	MS8 X RF3	canola	Bayer CropScience	sterility, herbicide resistance	food, feed, import and processing
24.	GT73	canola	Monsanto	herbicide resistance	
25.	T45	canola	Bayer CropScience	herbicide resistance	food and feed
26.	H7-1	sugar beet	KWS Saat AG/Monsanto	herbicide resistance	food, food ingredient and feed
27.	A2704-12	soybean	Bayer CropScience	herbicide resistance	* food, food ingredient and feed
28.	LL Cotton 25	cotton	Bayer CropScience	herbicide resistance	* products different than food and feed with and exception of cultivation
29.	MON-89788-1	soybean	Monsanto Europe S.A	herbicide resistance	

## ii. Environment:

No biotech seed varieties have been approved for planting in Croatia. In addition there are no seed varieties in the process of approval. Thus, currently, there is a de facto ban on biotech seed plantings in Croatia with a biotech seed threshold level in regular varieties of 0.0%.

## c. Situation for with-in country biotech crop field-tests:

According to the Law on Genetically Modified Organisms and consequent Regulations, field tests of biotechnology crops are allowed after all the conditions prescribed by the Law and Regulations are satisfied. However, such tests are not conducted in Croatia.

## d. Treatment of stacked events:

To date, Croatian legislation does not deal with or outline the treatment of stacked events. Future regulations may address this issue.

## e. Legal framework for coexistence between biotechnology and non-biotechnology crops:

The GMO Law forbids planting of biotechnology crops in nature-protected areas, ecological areas, areas for organic agricultural production or eco tourism, and in protected areas (i.e. as defined as protection impact zones with previously enlisted zones). In addition, biotech crop plantings for reproduction are allowed only in areas that are suggested by the Ministries of Agriculture and Culture and approved by the Croatian Government in a special ordinance.

## f. Labeling of packaged foods or feeds:

According to the Food Act, food and feed containing agricultural biotechnology ingredients must have special, additional information on the label that informs consumers on all characteristics of that kind of food/feed.

## g. Biosafety Protocol:

Croatia signed and ratified the Cartagena Biosafety Protocol. Officially there is no trade of biotech products, especially not with seeds. However, at present it is hard to tell whether or not the Biosafety Protocol is being applied and working in practice.

## **Section V. Marketing:**

### a. Market acceptance issues:

The average Croatian consumer has a negative opinion about food derived from biotech crops.



Farmers are afraid of growing biotech plants. There is a feeling that biotechnology is something unnatural and that food should be natural. The reasons for such negative opinions are varied and based on values and emotions.

**b. Country-Specific Studies on Acceptance of the biotechnology:**

A Croatian market research agency carried out a study in May, 2008 on “Food” that among other things researched opinion and knowledge of Croatian consumers on GMOs. In this study, 58% of respondents said that they wouldn’t eat GMO food products under any circumstances and 26% of respondents thought that they didn’t know enough about GM foodstuffs. The study showed that 90% of respondents think that GM foodstuff must be clearly labeled on the store shelf.

The same agency did a study in 2005 on Public Opinion on GMOs. In this study, 67% of respondents said that they wouldn’t eat GMO food products under any circumstances and only 16% of respondents thought that they didn’t know enough about GM foodstuff.

GfK agency also released the results of a study conducted in March 2004 on Croatian consumers' perception of pesticides use and biotech content in food. The results indicated that consumers view both pesticide use and biotech content in food as harmful to human health. However, excessive pesticide use was perceived as more harmful than biotech food. On average, women rated biotech foods as more harmful to health as compared to men. Respondents over 60 years of age rated biotech food more harmful as compared to younger respondents. There was an interesting trend among respondents with regard to their education levels. As education levels increased, the harmfulness of excessive pesticide use increased while the harmfulness of biotech content in food decreased. (see GAIN report HR 5001)

**Section VI. Capacity Building and Outreach:**

a. List of U.S. Government / USDA funded capacity building / outreach activities that have been carried out in Croatia:

2001 – Press conference held by Agricultural Counselor and Agricultural Attaché on the topic of biotechnology (sponsored by USDA)

2001/2002 – Promotional leaflets in Croatian language explaining agricultural biotechnology (Sponsored by USDA)

2002/2003 Lisa Katic, Food Industry Spokesperson – meetings with politicians, parliamentarians and government officials, roundtable discussion on biotechnology issues (sponsored by State Department)

2003 – James Maryanski, Biotechnology Coordinator for the U.S. Food and Drug Administration’s (FDA) Center for Food Safety and Applied Nutrition - participated and gave a presentation (An Approach to Assessing the Safety of Foods Derived From Plants Modified by Recombinant DNA Techniques) at the Biotechnology and Food Conference, was interviewed by a Croatian daily newspaper, the embassy hosted a luncheon with biotech stakeholders (sponsored by USDA)

2003 – Cochran candidate from the College of Food and Biotechnology, Scientific Assistant –

Biotechnology Program (sponsored by USDA)

2004 – Ann Marie Thro, National Program Leader for Plant Breeding and Genomics in USDA's Cooperative State Research, Education, and Extension Service – meetings with biotechnology stakeholders, press round table on biotechnology issues (Sponsored by USDA)

2005 – Dr. Peter Schmeissner, Agricultural Biotechnology Advisor, USDA/Foreign Agricultural Service (Sponsored by State Department)- meetings and luncheons with biotechnology stakeholders, presentation at Agricultural College (The uses of biotechnology for providing resistance to plant diseases), was interviewed on radio 101 show on biotechnology issues

2005 – Cochran candidate from the College of Agronomy, Scientific Assistant – Food Safety Control Methods (sponsored by USDA)

2006 – State Department International Visitors Program sponsored a Biotech Program for a group of biotech stakeholders from Croatia. The group was selected in cooperation with FAS.

2009 – Sponsoring feed conference KRMIVA. The topic of the conference was Biotechnology in feed. Sponsorship was done through and in cooperation with US Grains Council. US Grains Council provided the money and USDA office did the logistics.

## **Section VII. Author Defined: REFERENCE MATERIAL**

Gain HR 5008

Gain HR 5005

Gain HR 5004

Gain HR 5001

Gain HR/BK 4015

Gain HR 4022

Gain HR 4021

Gain HR 4016

Gain HR 4014

Gain HR 4013

Gain HR 4006

Gain HR 4002

Gain HR 3024

Gain HR 3023 (Translation of the old Food Act)

Gain HR 3019

Gain HR 5009

Gain HR 6007

Gain HR 7003

Gain HR9006

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